

The comparative effect of direct corrective feedback and recast in a critical thinking setting on EFL learners' reading comprehension**Article info****Article Type:**

Original Research

Authors:Mehrdad Rezaee¹Maryam Baghi²Elaheh Faramarzi³**Abstract**

The aim of present study was to explore the comparative effect of direct corrective feedback and recast on EFL learners' reading comprehension in a critical thinking (CT) context. Sixty female EFL learners were selected from a larger group of 85 learners through convenience sampling and were given a Preliminary English Test (PET) to assess their proficiency levels. As the next step, the participants formed two random experimental groups. The reading comprehension abilities of both groups were measured before and after the treatment through administration of reading section of two separate versions of PET. Both groups received 12 sessions of the treatment. Two paired samples t-tests were utilized, both of which proved significant improvement for both groups from pretest to posttest. Then, the posttest scores of the two groups using an independent samples t-test were compared. Based on the results, the difference between the two groups turned out to be significant indicating superiority of the effect of the recast. This study can have important implications for the stakeholders in foreign language (FL) education.

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1. Introduction

The reading competence is part of the educational quality and routes of connection in the interpersonal structure of reading practices and knowledge with the written discourse in the situational framework, which is founded on the thinking and fictional demonstration of the text and is offered through the mutual analogy given by the interactive content between text and the reader (Javed et al., 2016). The beginning stage of secondary education's goal is identified with the stronghold of obtaining exhaustive reading abilities (Betancur and Flórez, 2016). Suk (2016) elaborates on reading ability as an essential (L2) skill in educational domain, where "L2 learners need to read so that that can learn and complete related tasks" (p. 79). The comprehension of reading is not just the process of deciphering signs or taking word for word for the comprehension of notions; rather, it infers the reader's strategic thinking to grasp the composed content and to gain from it. This is where CT comes into play.

CT is considered to be significant in promoting language abilities, especially reading and writing (Elder and Paul, 2004). CT is a central condition for effective academic achievement. According to Giancarlo and Facione (2001), people with a high level of critical thinking should use their receptive skills to develop their CT abilities (Elder and Paul, 2004). Individuals can utilize CT abilities to comprehend, decipher, and examine what they hear or read to come up with fitting responses or reactions. These abilities permit individuals to put together the data that they hear and read, comprehend its specific situation or pertinence, perceive implicit presumptions, make coherent associations between thoughts, distinguish the truth values, and make inferences (Silagi et al., 2011). In contrast, taking part in engaged, powerful listening and reading likewise permits individuals to gather data in a way that best advances CT, and so, effective correspondence.

Additionally, research provides a convincing clue that an appropriate feedback is the most influential element affecting student accomplishment and it is a dynamic necessity in what students wish to accomplish (Hattie and Timperley, 2007). The knowledge inside the feedback may mirror the precision of a reaction to an issue or task and may moreover manage specific mistakes and misinterpretations (Cheng, et al., 2005). As far as the higher education is concerned, many studies have been conducted

on feedback and its contribution to student learning. Feedback is a crucial element of actual teaching and learning at an advanced level (Ackerman and Gross, 2010). Accordingly, the present study aimed at testing the comparative effect of two kinds of CF, recast and directive feedback in the critical setting to EFL learners may be of benefit to teachers in developing their learners' reading comprehension and it may assist educators to accomplish a better perception of teaching reading skill. It may also provide a hint for indicating the suitable approach of the teaching of reading as well as the more appropriate methods of providing the learners with feedback. Furthermore, the results of the study will have contributions for the teacher trainers and syllabus designers to help teachers develop their consciousness concerning directive feedback and recast in teacher education programs and in the materials designed for the students respectively.

Undoubtedly, the ability to comprehend text, i.e., reading comprehension can be deemed as a basic learning expertise for learners, since as pointed out by Wong and Butler (2013) it is the cycle of separating and developing meaning through cooperation and inclusion in composed language. Alfallaj (2017) describes comprehension as the pith of reading as it represents the cycle that upholds effective extraction of meaning from a written section. Current literacy norms necessitate that the learners' self-adjust, self-oversee and self-screen to come to be strategic readers who can choose data from the content, foster normal and integrate important reflection on the content during reading. In this case, as asserted by Alfallaj (2017), the EFL learners are needed to be given a broad scope of reading and writing exercises that incorporate compelling reading comprehension methods.

The act of successful reading comprehension methods is fundamental for upgrading the degree of comprehension among learners and in this way, language teachers are needed to execute sufficient reading methods to enhance comprehension and improve basic thinking in comprehending complex writings. Reading comprehension includes complex factors; basically, involving the factors, such as psychological, linguistic, and socio-cultural ones, because of which the advancement of a viable reading method is hard for L2 teachers (Alenizi, 2019).

Johnston and Kirby (2006) characterized reading comprehension as a kind of complex mental process that requires extracting meaning from the text and it aimed to

help reader to understand the given text. He proves that the reading comprehension consist of two persons, the reader and the author, so the procedure of comprehending includes reading the text, then decoding the writer`s words, using the background knowledge in order to understanding the writer`s message. So, when learners are reading a text, they want to get the main meaning.

According to Alfassi (2004), to improve the skill of reading in L2 classes, learners should “comprehend the sense of text, critically assess the meaning, think of the content, and relate the newly gained information adaptably” (p. 89). Moreover, there is a connection between reading as a significant mastered expertise and CT as a procedure to control and oversee it. Critical thinking is regarded an important skill that has been the focus of numerous research studies (Al-Kindi and AL-Mekhlafi, 2017; Florea and Hurjui, 2016; Saleh, 2019). Also, it is significant since it is one of the necessary abilities to be learned and established by learners to develop their reading abilities (Petrucchio and Ferranti, 2017). What is being asserted is that readers do not have to acknowledge the words on the page as given; however, a scope of interpretations is valid. They ought to have the option to combine groundbreaking thoughts with their background information, distinguish the connections between various snippets of data or express their concord or dissent about the writer’s viewpoint.

To achieve these goals, students need to utilize explicit procedures (Shokrpour, et al., 2013). As stated by Basri, et al (2019), readers can utilize CT abilities to comprehend, decipher, and examine what they hear or read to define proper responses or reactions. When it comes to education, it has essentially been perceived that educators are teaching learners what to think as opposed to how to think adequately about the topics. This strategy greatly impedes the learners’ thinking regarding what they learn.

On the other hand, in second language research (SLA) domain, some types of research are attaching primary importance to corrective feedback that is a significant piece of L2 instruction on the grounds that learners can realize how far they have advanced and how they are getting along through the educator’s input (Gholizade, 2013). The term CF has as of late been a critical piece of foreign language instruction. Indeed, it is utilized to give data on the accuracy of student’s expressions and give them the right type of their incorrect production (Hashemifardnia, et al., 2019). Grami (2005) describes

feedback as “any processes employed to notify a student of the correctness or incorrectness of an instructional response” (p. 141).

According to Bitchener, et al. (2005), direct or explicit feedback could be characterized as the arrangement of the right language structure or construction approximate to the linguistic mistake. Such a kind of feedback entails the teacher's ability to distinguish the kind of mistake, explains the thoughts, crosses out the unessential words, embeds the important expressions, and gives the right structures. In categorizations of CF, recast is usually considered as implicit type that provides input (i.e., the target form). Recasts concurrently give target-like information and verifiably reduce negative feedback, which might mean negative proof if the student's understanding and deductions are right. In Ferris (2006)'s view, direct feedback is a system of giving criticism to learners to assist them with amending their mistakes by giving the right linguistic form or linguistic construction of the target language. By giving the right reaction or the probable reaction above or near the linguistic or grammatical mistake it is normally given by educators, after seeing a grammatical error (Bitchener and Knoch, 2008; Ferris, 2006).

Without a doubt, a fundamental achievement in these days and age is the capacity to read at least one language. Concerning second language students, solid reading abilities can aid the advancement of other language abilities (Anderson, 2003). In Iran, students participate in reading through regular reading exercises (e.g., solving cloze test, multiple-choice statements, and providing synonyms and antonyms for the exercise's new vocabulary. Also, educators have a penchant for getting immediate criticism from students' reading comprehension capacity. It appears to be that educators do not challenge the prevailing four abilities view or a coordinated methodology in teaching students reading abilities. Subsequently, members do not offer their viewpoint about the texts and are hesitant to examine the texts' hidden significance (Alizamani, et al., 2013).

As asserted by Hoeh (2015), if learners are not capable of effectively comprehend they will be kept from learning and this will adversely affect various parts of their lives later on. Reading challenges negatively affect various aspects of learners, including their educational advancement, confidence, viewpoints of reading, inspiration to read, decisions related to job, and assumption for reading achievement in the future (Sloat, et

al., 2007; Woolley, 2011).

The prominence of CF in SLA theory has dedicated a cumulative amount of research in scrutinizing the association between feedback and L2 learning and they reported positive proofs for its usability and efficacy (e.g., Banaruee and Askari, 2016; Long, et al., 1998; Oliver, 2000; Ruegg, 2018). In addition, review of the literature suggests that CF is more advantageous but, together with research on the CF approaches of teachers, there are very few research inquires examining the efficiency of diverse types of feedback strategies. In addition, the review of related literature indicates that no study has examined the comparative effect of direct CF and recasts in a CT setting on EFL learners' reading comprehension. Given the objective of this study, the following research questions were formulated:

1. Does direct corrective feedback have a significant effect in a critical thinking setting on EFL learners' reading comprehension?
2. Does recast have a significant effect in a critical thinking setting on EFL learners' reading comprehension?
3. Is there any significant difference between the effect of direct corrective feedback and recasts in a critical thinking setting on EFL learners' reading comprehension?

2. Methodology

2.1. Design

This study used a quasi-experimental design and the participants were selected using a convenient non-random method. They were randomly divided into two experimental groups with two types of treatments. In the present study, direct CF and recast were independent variables and reading was regarded as a dependent variable. The gender and proficiency of the learners were deemed as control variables of the study.

2.2. Participants

EFL learners enrolled in an English Language Institute in Tehran, the capital of Iran constituted the sample of this investigation. A total of sixty intermediate female learners took part in this study, with their ages ranging from 18 to 28. It should be noted the initial sample was made up of 85 students who had been selected based on their PET scores.

More specifically, the learners whose scores ranged from one SD below and above the mean were considered as qualified participants of this study. This was followed by randomly dividing them into two 30-member experimental groups. The directive corrective feedback was given as a treatment in the first experimental group while the participants in the second experimental group were provided with recast as a treatment.

Moreover, 25-member group whose characteristics were the same as those of the learners in the main study participated in the pilot study. Besides, a rater with a master's degree in TEFL with more than five years of teaching experience helped the researchers in rating the writing sections of the proficiency test.

2.3. Instruments and Materials

This study employed the following instruments:

Preliminary English Test (PET)

In order to assess the subjects' L2 proficiency, a sample PET was administrated. PET is composed of 4 language skills, namely, speaking, writing, listening, and reading, and it constitutes the second level of Cambridge ESOL exam. PET is recognized by many institutes and organizations as a certificate that confirms the applicant's qualification for working or studying abroad or furthering a career in international business.

Writing Rating Scale of PET

This study used a rating scale to rate the participants' writing performance on PET. This scale developed by Cambridge has come to be named General Mark Schemes for Writing. The rubrics associated with the rating scale determines the rating, which ranges from 0-5.

Reading Pretest

After homogenizing the participants based on their scores on the PET, the researchers used a reading section of a PET, as the reading pretest. The reading pretest was aimed at determining if the learners were homogeneous in terms of their reading competence.

Reading Posttest

Following the instructional period, the researchers used the reading part of another version of PET as the reading. The posttest was aimed at comparing the two experimental groups in terms of their post-treatment performance.

Textbooks

In the current study, both groups were taught using “American English File Book 2” authored by Latham-Koenig, et al. (2008). This source is appropriate for intermediate learners and is composed of nine units dealing with all four skills. In this study, four units were covered during the treatment.

2.4. Procedure

In this study, the researchers followed some steps. Initially, the piloted PET test was administered to 85 students in order to homogenize the participants according to their language proficiency. After administration of the PET, those students who obtained scores that fall in the range spanning a SD below and above the mean were selected for this study. Then, these 60 students were divided into two experimental groups. The researchers considered the reading section of a PET, as their reading pretest. It is worth mentioning that these treatments were performed in a CT setting. Since CT setting refers to a situation in which students are involved in solving a challenging issue, after reading a text, the students were put in a situation that they needed to respond to the questions presented by the teacher/the third researcher to analysis, interpret, inference, explain about the topic. In this way, the teacher encouraged learners in the process of treatment by requesting them to reflect on the text. Then the learners had a chance to read the passage by forming groups and selecting a title for it. After reading the titles each, they were provided with five minutes to reflect on all the titles presented. Finally, the participants compared the titles and selected the best one. This was followed by the unscrambling the paragraphs and then making a summary of the text.

Recast group

For the first experimental group, the students received recast as their treatment. The participants were asked to write a summary of the text they had read. After receiving the summaries, the teacher/ third researcher highlighted words, sentences, or any interpretation of the text that were not correct. Then, the drafts were returned to the students and they were asked to make the required corrections to their mistakes. They were also asked to revise the drafts for the following session. The next session, the teacher received the papers and the writings were graded for the second time, and

provided recasts to the mistakes by writing the correct ones while keeping the original meaning. The writings were rated for the second time, with the learners receiving higher scores compared to their previous writings.

Direct corrective feedback group

Another group received direct CF as their intervention. After receiving the summary, the teacher provided explicit corrections. This was followed by marking the mechanical errors using red ink, with the notes written in the margins about the philosophy and clarity of the essay. All the mistakes and errors were corrected on the papers, scored them, and returned in the following session.

Every session, the participants had 20 minutes to talk about the reading text in the class based on the provided questions in line with CT setting. Before starting reading, they had to use related strategy which they had learned in their reading process. Then they had to develop their ideas about the topic. At the end of the instruction, both groups took the reading posttest to see any possible enhancement in their reading ability. It is worth noting that the instructional intervention consisted of 12 sessions of 90 minutes each but just 40 minutes on a treatment.

2.5. Data Analysis

This study used several statistical analyses to address the research questions. After collecting the data, two types of procedures, namely, descriptive and inferential were carried out to analyze the descriptive statistics of the main participants' performance on the general proficiency test to make sample of the participants homogenized. Finally, to test the first two research questions, two sets of paired samples t-test were performed while for the third hypothesis, the researchers used an independent samples t-test.

3. Results

The following section presents the data and reports related to the analyses.

Administration of the PET

As the first step, PET was administered to 85 participants. The descriptive statistics and histogram of this administration are presented below in Table 1. As is shown in Table 1, the mean of the scores for the initial group was 48.47 while the standard deviation of the

scores stood at 9.7. The reach a homogenous sample, those whose scores fell within the range of mean ± 1 standard deviation (38.77 to 58.17) were selected. The descriptive statistics of the selected participants are also presented in Table 1, below.

Table 1

Descriptive Statistics of the Initial and Selected Participants' Scores in PET Administration

	N	Minimum	Maximum	Mean	Std. Deviation
Initial	85	25.50	69.50	48.4706	9.69700
Selected	60	39.00	58.00	48.6000	5.52253
Valid N (listwise)	60				

Based on the above results reported above, out of initial 85 learners, 60 were selected as homogenous ones to participate in the main study. To provide a better picture of the initial and selected participants' PET scores, Figure 1 was created.

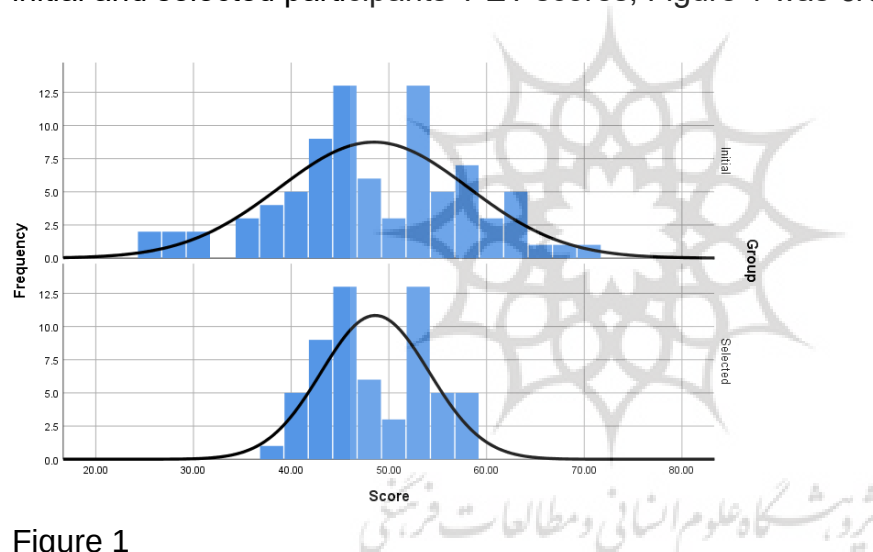


Figure 1

Histogram of Initial and Selected Participants' PET Scores

Dividing the Participants into Two Groups

As mentioned in Chapter three, the selected 60 participants were randomly assigned into two groups, i.e., CF (N = 30) and recast (N = 30). Before stepping forwards to run the treatments, a comparison was made between the scores of the two groups in PET to ensure that the assignment did not affect the groups' homogeneity.

Table 2 presents the distribution of PET scores among the two groups. As it is evident from the Table, the two groups had close mean and standard deviation values. The skewness ratios also indicated normality distributions for each group of scores, as

they fell within the legitimate range of ± 1.96 .

Table 2

Descriptive Statistics of PET Scores by Two Groups

	N	Mean	Std. Deviation	Skewness		
				Statistic	Std. Error	Ratio
Corrective	30	49.0167	5.52187	-.007	.427	-0.0164
Recast	30	48.1833	5.58552	.302	.427	0.7073
Total	60	48.6000	5.52253	.142	.309	0.4596

In order to make sure of initial homogeneity in terms of language proficiency, an independent samples t-test was performed (Table 3). Given the normal distribution of the data, running this parametric test was legitimized.

As it is evident from Table 3, the variances were not significantly different across the groups as the Sig. value for Levene's test was over the cut-point of .05 (Levene's $F = 0.02$, $p = .89 > .05$). Therefore, the assumption was met. Having met the required assumptions (equality of variances), the results of t-test was followed with assumption in place (first row in the Table).

Table 3

Independent Samples T-Test on PET Scores of Two Groups

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
PET	Equal variances assumed	.020	.888	.581	58	.563	.83333	1.43398	-2.03709	3.70376
	Equal variances not assumed			.581	57.992	.563	.83333	1.43398	-2.03710	3.70377

The result ($t_{(58)} = .581$, $p = .563 > .05$) indicated that the two groups were not significantly different. Therefore, the two groups were homogenous regarding their L2

proficiency at the outset.

The Main Study

After dividing the participants into two groups, their reading comprehension skills was captured from the reading section of the proficiency test they had taken. Then each group went through the specified treatment. At the end of the treatment, the reading section of another PET was administered to both groups as the posttest. The description of the data obtained from these two administrations as well as the estimated reliability indices are presented in the following subsections.

Pre-Treatment Test

As mentioned above, the questionnaire of autonomy was applied to the three groups twice, prior to and following the treatment. Table 4 presents the descriptive statistics of the scores of the two groups at the pre-treatment stage.

Table 4

Descriptive Statistics of the Reading Scores at the Pre-Treatment Stage

	N	Minimum	Maximum	Mean	SD	Skewness		
						Std.	Ratio	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Error	
Corrective	30	18.00	29.00	22.7000	2.86657	.182	.427	0.4262
Recast	30	18.00	30.00	22.8333	3.25982	.537	.427	1.2576
Total	60	18.00	30.00	22.7667	3.04412	.394	.309	1.2751
Valid N (listwise)	60							

As illustrated in Table 4, the mean of the three groups were close at the beginning. Moreover, the skewness ratios of both sets of scores fell within the range of ± 1.96 ; thus, the distribution of all sets of data were considered normal. An independent samples t-test was performed to make sure that the difference is not significant, (Table 5). Given the normal distribution of the data, running this parametric test was legitimized.

As it is evident from Table 5, the variances were not significantly different across the groups as the Sig. value for Levene's test was over the cut-point of .05 (Levene's $F = 0.501$, $p = .48 > .05$). Therefore, the assumption was met. Having met the required assumptions (equality of variances), the results of t-test was followed with assumption in place (first row in the Table).

Table 5

Independent Samples T-Test on Reading Pretest Scores of Two Groups

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Pretest	Equal variances assumed	.501	.482	-.168	58	.867	-.13333	.79254	-1.71978	1.45311
	Equal variances not assumed			-.168	57.067	.867	-.13333	.79254	-1.72033	1.45366

The result ($t_{(58)} = .168$, $p = .867 > .05$) indicated no significant difference between the two groups. Therefore, it was concluded that the two groups were homogenous in terms of reading comprehension at the outset.

Posttest

After the treatment was over, the reading section of another version of PET was administered to the participants of the two groups as a posttest. Table 6 presents the descriptive statistics of the results.

Table 6

Descriptive Statistics of the Reading Scores at the Post-Treatment Stage

	N	Minimum Statistic	Maximum Statistic	Mean Statistic	SD Statistic	Skewness		
						Statistic	Std. Error	Ratio
Corrective	30	19.00	33.00	24.8333	3.37418	.356	.427	0.8337
Recast	30	21.00	33.00	26.5667	2.76285	.381	.427	0.8922
Total	60	19.00	33.00	25.7000	3.17992	.166	.309	0.5372
Valid N (listwise)	60							

Comparing the results presented in Table 6 with the results in Table 4 shows that the mean scores has changed from pre-treatment to post-treatment. The skewness ratios for all sets of data, again, fell within the legitimate range of ± 1.96 , indicating normality of

all distributions. Figure 2 displays the above descriptive statistics for a clearer visual understanding.

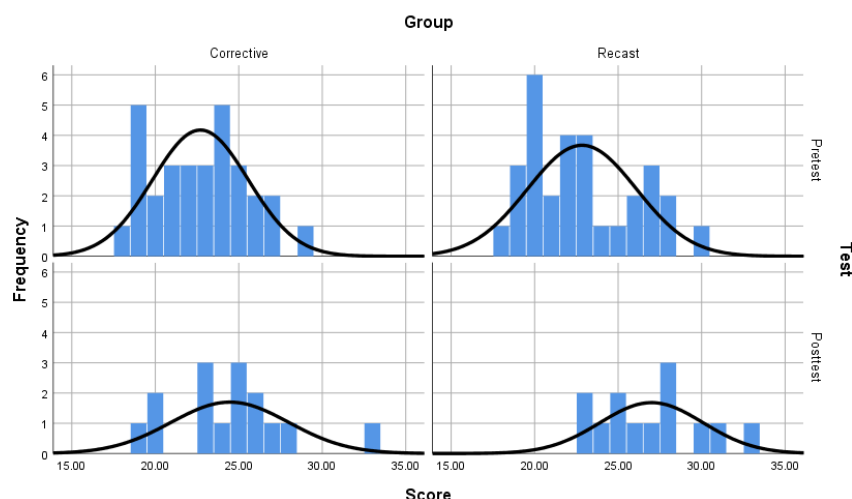


Figure 2

Histogram of the pretest and posttest scores across two groups

Response to the Research Questions

The study aimed to answer three research questions. Answering the first two research questions required running two paired samples t-tests. Running paired samples t-tests required an assumption of normality of residuals (Posttest – Pretest) to be met. Table 7 present the descriptive statistics for residuals.

Table 7

Descriptive Statistics of the Residual Scores for Reading Pretest and Posttest

	N	Minimum	Maximum	Mean	SD	Skewness		
						Std. Error	Ratio	
Corrective	30	.00	5.00	2.1333	1.83328	.329	.427	0.7705
Recast	30	.00	8.00	3.7333	2.30342	-.031	.427	-0.0726
Total	60	.00	8.00	2.9333	2.21602	.290	.309	0.9385
Valid N (listwise)	60							

As reported in Table 7, the CF treatment caused a change from 0 to 5 ($M = 2.13$) points in the students reading scores while the recast caused 0 to 8 ($M = 3.73$). The inspection of skewness ratios showed that both residual distributions were normal

(skewness ratios falling within the range of ± 1.96). Therefore, the assumption was met and running parametric paired samples t-tests was legitimized.

For the third research question, however, running an independent samples t-test on the posttest scores was required. As it was already shown (see Pre-Treatment Test), the participants were homogenous in terms of reading comprehension at the outset of the study, a possible significant difference in their reading posttest scores can be attributed to the effect of the treatment. The assumption of normality of distributions for this test was met (see Table 6); thus, running parametric independent samples t-test was also legitimized. In what follows, the results obtained in analyzing data pertinent to each research question are presented.

The First Research Question

The first research question inquired if direct corrective feedback has a significant effect in a critical thinking setting on EFL learners' reading comprehension. To answer this question, a paired samples t-test on the pretest and posttest scores of the CF group was run (Table 8).

Table 8

Paired Samples T-Test on Reading Pretest and Posttest Scores of the Corrective Feedback Group

		Paired Differences							Sig. (2-tailed)
		95% Confidence Interval of the Difference							
		Mean	Std. Deviation	Std. Error Mean	Interval of the Difference		t	df	
					Lower	Upper			
Pair 1	Posttest – Pretest	2.13333	1.83328	.33471	1.44877	2.81789	6.374	29	.000
Correlation: 0.84									

As reported in Table 8, the difference (MD = 2.13, SE = .34) between the posttest and pretest scores of the participants in the CF group was significant ($t_{(29)} = 6.37$, $p = .000$, Cohen's $d = 1.316$, representing a large effect size). Therefore, the first null hypothesis, which stated "*direct corrective feedback does have a significant effect in a critical thinking setting on EFL learners' reading comprehension*", was **rejected**.

The Second Research Question

The second question inquired whether recast have a significant effect in a critical thinking setting on EFL learners' reading comprehension. To answer this question, another paired samples t-test on the pretest and posttest scores of the recast group was run (Table 9).

Table 9

Paired Samples T-Test on Reading Pretest and Posttest Scores of the Recast Group

		Paired Differences							Sig. (2-tailed)
		95% Confidence Interval of the Difference					t	df	
		Mean	Std. Deviation	Std. Error	Lower	Upper			
Pair 1	Posttest – Pretest	3.73333	2.30342	.42055	2.87322	4.59344	8.877	29	.000

Correlation: 0.72

As reported in Table 9, the difference (MD = 3.73, SE = .42) between the posttest and pretest scores of the participants in the recast group was significant ($t_{(29)} = 8.88$, $p = .000$, Cohen's $d = 1.528$, representing a large effect size). Therefore, the second null hypothesis, which stated "*recast does have a significant effect in a critical thinking setting on EFL learners' reading comprehension*", was also **rejected**.

The Third Research Question

The third research question explored if there is a significant difference between the effect of direct corrective feedback and recasts in a critical thinking setting on EFL learners' reading comprehension. Finally, in order to answer the last research question, an independent samples t-test was run on the posttest scores of the participants (Table 10).

As it is evident from Table 10, the variances were not significantly different across the groups as the Sig. value for Levene's test was over the cut-point of .05 (Levene's $F = 0.988$, $p = .32 > .05$). Therefore, the assumption was met. Having met the required assumptions (equality of variances), the results of t-test was followed with assumption in place (first row in the Table).

Table 10

Independent Samples T-Test on Reading Posttest Scores of Two Groups

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Posttest	Equal variances assumed	.988	.324	-2.177	58	.034	-1.73333	.79621	-3.32712	-.13955
	Equal variances not assumed			-2.177	55.827	.034	-1.73333	.79621	-3.32844	-.13823

The result ($t_{(58)} = 2.177$, $p = .034 > .05$, Cohen's $d = .562$) indicated a significant difference between the two groups' posttest scores, recast group outperforming the CF group. As a result, the third null hypothesis, namely, "*there is no significant difference between the effect of direct corrective feedback and recasts in a critical thinking setting on EFL learners' reading comprehension*", was also **rejected**.

4. Discussion

The present study aimed to investigate the comparative effect of CF and recast in a CT setting on EFL learners' reading comprehension. The results showed that while both methods worked significantly positive in improving learners' achievement, recast had significantly higher impact.

The obtained results were in line with previous works which showed efficacy of various feedback in improving learners' language proficiency. Examples of such studies are Ayoun (2001); Bitchener and Knoch (2010), and Daneshvar and Rahimi (2014) on writing; Gholizade (2013); Nassaji (2009) on grammar learning; Nejati and Molaee (2015) on reading; Rassaei and Moinzadeh (2011) on speaking; and Suarman (2013).

With regards to the higher efficacy of recast, the result was also in line with the previous studies. recast was proved to be a better method of CF in improving speaking

(Gholizade, 2013), grammatical features (Daneshvar and Rahimi, 2014; Nassaji, 2017).

This study was conducted in a special context, i.e., CT setting. The results, thus, should be looked at from this point of view. As suggested in the literature (e.g., Kamali and Fahim, 2012), CT ability is significantly correlated with reading comprehension of the learners. Therefore, the setting, per se, could be an effective variable in enhancing the learners' reading.

The obtained results could also be affected by learners' point of view about the different types of feedback and their compatibility in improving their errors. Such variant points of view are observable in the study of Li (2020). However, such mediating variables were not in the scope of this research. Therefore, researchers are recommended to conduct studies to reach a more comprehensive results with this regard.

5. Conclusion

The findings of this study generally emphasize on the importance of incorporating recast and CF in the process of reading comprehension instruction which lead students to greater learning opportunities. The results revealed that recast was more effective method of boosting reading comprehension in a CT setting. Therefore, the practitioners may use the obtained results in their practices.

It is worth to mention that the present study faced some limitations. The most important limitation lies in the fact that the present study was conducted on employing a small number of students. Therefore, the researchers could not generalize the research findings. Another limitation of the study is that it does not specifically consider the two variables of gender or age of the participants. The third limitation of this study is that the domain of the study is limited to the effect of the corrective feedback on reading comprehension skill as a whole and not its subscales such as overt cognitive reading strategies.

Based on the research findings, this study suggests some implications to EFL learners, teachers, and material developers that are hoped to be found helpful. An EFL teacher is advised to incorporate reading comprehension practice along with the appropriate types of feedback as a source of helpful device for the development of learners. The results imply that recast paves the way for the improvement of EFL writing. As a result, it recommends that classroom L2 writing instructors need to provide the

students with recast. It is also advised that teachers discuss with students which linguistic errors should be focused on and provide them with adequate CF and help them take a CT approach in facing the errors.

Based on the results of this study, direct CF contributes to increasing intermediate EFL learners' attention on their errors, which can help them to enhance their understanding of the nature of their errors; this is mirrored by Ferris and Roberts (2001) who insisted on the effectiveness of CF for low or intermediate learners. The results can be helpful for EFL learners to enhance their reading skill by receiving the teacher's CF or recast. Also, in English classes, learners could be challenged to think critically about the feedbacks they received. This can enhance their learning. Syllabus designers and materials developers may wish to enhance the quality of the materials with appropriate tasks that familiarize learners with types of feedback, especially the ones used in this study. Perhaps, incorporating materials that require CT of the learners can further help boosting the learning of the participants.

The followings are some suggestions for the further studies:

1. The participants of the study were intermediate language learners; future studies could be done on participants with other levels of language proficiency.
2. This study has been carried out in a language institute; further studies could be conducted in different educational settings, such as schools or universities.
3. Due to manageability reasons and focus of the study, the study was done only during 12 sessions and its influence was examined in a short term. More studies might be conducted for a longer term.
4. In the present study, the researcher did not consider other factors such as personality factors as well as learning styles. Researchers are encouraged to consider these factors in the studies in the future.

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